

INDIAN SCHOOL NIZWA  
MATHEMATICS WORKSHEET-1  
CH-1 SETS

DATE: MAY

CLASS :XI

1. If  $U = \{1,2,3,4,5,6,7,8,9\}$  ,  $A = \{2,4,6,8\}$   $B = \{2,3,5,7\}$ ,  
Verify that i.  $(A \cup B)' = A' \cap B'$  ii.  $(A \cap B)' = A' \cup B'$
2. Show  $(A \cap B) \cup (A \cap C)$  using Venn Diagrams.
3. In a survey of 60 people , it was found that 25 people read newspaper H, 26 read newspaper T, 26 read newspaper I, 9 read both H and I, 11 read both H and T, 8 both T and I, 3 read all the three newspapers. Find
  - i. The number of people who had at least one of the newspapers
  - ii. The number of people who read exactly one newspaper.
4. If  $A = \{1,2,3,4,5,6\}$   $B = \{2,3,5,6\}$   $C = \{1,3,5\}$   
Verify that  $A - (B \cap C) = (A - B) \cup (A - C)$
5. If  $A = \{a,b,c,d,e\}$  find the total no. of subsets of A
6. If  $(x+1, y-2) = (3,1)$  find the value of x and y
7. Let  $U = \{1,2,3,4,5,6\}$   $A = \{2,3\}$   $B = \{3,4,5\}$   
Find i.  $A'$  ii.  $B'$
8. What will be the value of  $A \cap A'$
9. Write the set  $B = \{3,9,27,81\}$  in set-builder form.
10. If  $Y = \{1,2,3,4,5,6,7,8,9\}$ ,  $A = \{2,3,5,7,9\}$ ,  $B = \{1,2,4,6\}$ ,  
verify (i)  $(A \cup B)' = A' \cap B'$  (ii)  $B - A = B \cap A' = B - (A \cap B)$
11. A survey shows that 84% of the Indians like grapes, whereas 45% like pineapple. What percentage of Indians like both grapes and pineapple?
12. In a survey it is found that 21 people like product A, 26 people like product B and 29 like product C. If 14 people like product A and B, 15 people like product B and C, 12 people like product C and A, and 8 people like all the three products. Find (i) How many people are surveyed in all? (ii) How many like product C only?